CLAIMS:

1. A magnetoresistive memory device comprising:

a conductive pattern disposed over a substrate with an insulation layer interposed therebetween;

a magnetoresistive memory cell disposed on the conductive pattern; and

an interlayer dielectric layer disposed on the insulation layer to surround the magnetoresistive memory cell, wherein the interlayer dielectric layer comprises a high permeability magnetic material layer.

2. The magnetoresistive memory device of claim 1, wherein the interlayer dielectric layer further comprises a silicon oxide layer.

3. The magnetoresistive memory device of claim 1, further comprising magnetic focusing spacers disposed on sidewalls of the magnetoresistive memory cell.

4. The magnetoresistive memory device of claim 3, wherein the magnetic focusing spacers and the high permeability magnetic layer are formed of a material chosen from the group consisting of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

5. The magnetoresistive memory device of claim 3, further comprising magnetic focusing conductive spacers disposed on the magnetic focusing spacers.

6. The magnetoresistive memory device of claim 5, wherein the magnetic focusing conductive spacers are formed of a material chosen from the group consisting of Co, NiFe, and combinations thereof.

7. The magnetoresistive memory device of claim 1, wherein the high permeability magnetic material layer is formed of material chosen from the group consisting of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

8. The magnetoresistive memory device of claim 1, wherein the magnetoresistive memory cell comprises a lower ferromagnetic layer pattern, a nonmagnetic layer pattern, and an upper ferromagnetic layer pattern that are sequentially stacked on the conductive pattern.

9. The magnetoresistive memory device of claim 8, further comprising magnetic focusing spacers disposed on sidewalls of the upper ferromagnetic layer pattern.

10. The magnetoresistive memory device of claim 9, wherein the magnetic focusing spacers are formed of a material chosen from the group consisting of Co, NiFe, Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and a combination thereof, and

wherein the high permeability magnetic material layer is chosen from the group consisting of Ni-Fe-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and a combination thereof.

11. The magnetoresistive memory device of claim 10, further comprising:

a bit line electrically connected to the upper ferromagnetic layer pattern;

a digit line disposed in the insulation layer such that the upper ferromagnetic layer pattern is in a region where the bit line crosses over the digit line; and

a contact pad positioned in the insulating layer at a height approximately equal to that of the digit line, the contact pad electrically connecting the lower ferromagnetic layer pattern and an active region of the substrate through a lower contact plug and an upper contact plug that penetrate the insulating layer under and over the contact pad.

12. The magnetoresistive memory device of claim 11, wherein the conductive pattern, the lower ferromagnetic layer pattern, and the nonmagnetic layer pattern are positioned over the contact pad and the digit line, and

wherein the upper ferromagnetic layer pattern is positioned over the digit line.

13. The magnetoresistive memory device of claim 4, wherein the magnetoresistive memory cell comprises a lower ferromagnetic layer pattern, a nonmagnetic layer pattern, and an upper ferromagnetic layer pattern that are sequentially stacked on the conductive pattern, and wherein the magnetoresistive memory device further comprises:

a bit line electrically connected to the upper ferromagnetic layer pattern;

a digit line positioned in the insulation layer such that the upper ferromagnetic layer pattern is in a region where the bit line crosses over the digit line; and

a contact pad postioned in the insulating layer at a height approximately equal with the digit line, the contact pad connecting the lower ferromagnetic layer pattern and an active region of the substrate through a lower contact plug and an upper contact plug that penetrate the insulating layer under and over the contact pad.

14. The magnetoresistive memory device of claim 13, wherein the conductive pattern is positioned over the contact pad and the digit line, and

wherein the lower ferromagnetic layer pattern, the nonmagnetic layer pattern, and the upper ferromagnetic layer pattern are positioned over the digit line.

15. A magnetoresistive memory device comprising:

a conductive pattern positioned over a substrate with an insulation layer interposed therebetween;

a magnetoresistive memory cell positioned on the conductive pattern;

magnetic focusing spacers disposed on sidewalls of the magnetoresistive memory cell; and

an interlayer dielectric layer positioned on the insulation layer and surrounding the magnetoresistive memory cell.

16. The magnetoresistive memory device of claim 15, wherein the magnetic focusing spacers are made of a material chosen from the group consisting of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

17. The magnetoresistive memory device of claim 15, wherein the interlayer dielectric layer comprises a layer formed of a material chosen from the group consisting of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

18. The magnetoresistive memory device of claim 17, wherein the interlayer dielectric layer further comprises a silicon oxide layer.

19. The magnetoresistive memory device of claim 15, wherein the magnetoresistive memory cell comprises a lower ferromagnetic layer pattern, a nonmagnetic

layer pattern, and an upper ferromagnetic layer pattern that are sequentially stacked on the conductive pattern, and

wherein the magnetic focusing spacers are disposed on sidewalls of the upper ferromagnetic layer pattern.

20. The magnetoresistive memory device of claim 15, wherein the magnetic focusing spacers are formed of a material chosen from the group consisting of Co, NiFe, Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

21. A method of fabricating the magnetoresistive memory device comprising:

forming a conductive pattern over a substrate with an insulation layer interposed therebetween;

sequentially forming a lower ferromagnetic layer, a nonmagnetic layer, and an upper ferromagnetic layer pattern on the conductive pattern and the insulation layer;

patterning the upper ferromagnetic layer, the nonmagnetic layer, and the lower magnetic layer to form a magnetoresistive memory cell comprising an upper ferromagnetic layer pattern, a nonmagnetic layer pattern, and a lower magnetic layer pattern;

forming magnetic focusing spacers on sidewalls of the magnetoresistive memory cell; and

forming an interlayer dielectric layer on an entire surface of the resultant structure.

22. The method of claim 21, wherein forming an interlayer dielectric layer comprises forming a layer from a material chosen from the group consisting of a high permeability magnetic material layer, a silicon oxide layer, and combinations thereof.

23. The method of claim 22, wherein the magnetic focusing spacers and the high permeability magnetic material layer are formed of a material chosen from the group consisting of Ni-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

24. The method of claim 21, further comprising forming conductive magnetic focusing spacers on the magnetic focusing spacers.

25. The method of claim 24, wherein the magnetic focusing spacers are formed of a material chosen from the group consisting of Ni-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof, and

wherein the conductive magnetic focusing spacers are formed of a material chosen from the group consisting of Co, NiFe, and combinations thereof.

26. The method of claim 21, wherein the nonmagnetic layer pattern and the lower magnetic layer pattern are wider than the upper ferromagnetic layer pattern, and

wherein forming the magnetic focusing spacers comprises:

forming a spacer material layer on the insulation layer and the magnetoresistive memory cell; and

etching the spacer material layer to form spacers on a sidewall of the upper ferromagnetic layer pattern.

27. The method of claim 26, wherein the magnetic focusing spacers are formed of a material chosen from the group consisting of Co, NiFe, Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

28. A method of fabricating a magnetoresistive memory device comprising:

sequentially forming a conductive layer, a lower ferromagnetic layer, a nonmagnetic layer, and an upper ferromagnetic layer over a substrate with an insulation layer interposed therebetween;

patterning the sequentially stacked layers to form an upper ferromagnetic layer pattern, a nonmagnetic layer pattern, a lower magnetic layer pattern, and a conductive pattern, wherein the upper ferromagnetic layer pattern, the nonmagnetic layer pattern, and the lower ferromagnetic layer pattern compose a magnetoresistive memory cell;

forming magnetic focusing spacers on sidewalls of the magnetoresistive memory cell; and

forming an interlayer dielectric layer on an entire surface of the resultant structure.

29. The method of claim 28, wherein the interlayer dielectric layer is chosen from the group consisting of a high permeability magnetic material layer, a silicon oxide layer, and combinations thereof.

30. The method of claim 29, wherein the magnetic focusing spacers and the high permeability magnetic material layer is formed from a material chosen from the group consisting of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.

31. The method of claim 28, further comprising forming conductive magnetic focusing spacers on the magnetic focusing spacers

32. The method of claim 31, wherein the magnetic focusing spacers are formed of material chosen from the group consisting of Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof, and wherein the conductive magnetic focusing spacers are formed of material chosen from the group consisting of Co, NiFe, and combinations thereof.

33. The method of claim 28, wherein the nonmagnetic layer pattern, the lower ferromagnetic layer pattern, and the conductive pattern are wider than the upper ferromagnetic layer pattern; and

wherein forming the magnetic focusing spacers comprises:

forming a spacer material layer on the insulation layer and the magnetoresistive memory cell; and

etching the spacer material layer to form magnetic focusing spacers on sidewalls of the upper ferromagnetic layer pattern.

34. The method of claim 32, wherein the magnetic focusing spacers are formed of a material chosen from the group consisting of Co, NiFe, Ni-Zn-Ferrite, Mn-Zn-Ferrite, MnFeO, CuFeO, FeO, NiFeO, and combinations thereof.